

## ABSTRACT

A system and method are for inserting modifications into an executable program at the time an operating system loads the executable program for execution. The system includes a program modification database that provides a general depository of program changes in the form of substitute APIs and direct program patches. The system further comprises a program loader routine that identifies an entry in the program modification database corresponding to a program selected for execution on a computer system. The loader routine incorporates changes identified in the database entry associated with the selected program into a program segment (e.g., API) substitution table. After constructing the substitution table, each table entry includes a called API reference (e.g., its handle or address) and a reference to a substitute API.

During run time, after the executable program and substitute APIs have been loaded into the active process space (e.g., RAM) of a computer system, when a particular one of the substituted APIs is called, an exception notification issues. In response to the exception, an exception handling routine confirms a need to execute a substitute API, locates the substitute API by reference to the substitution table, and then executes the substitute API.